

CLAIMS

1. An organic-inorganic composite material comprising;

at least one organic polymer selected from the group consisting of polyamide,

5 polyurethane, and polyurea, and

at least one inorganic compound fine particle selected from the group consisting

of a metal oxide of groups 3 to 12 transition metal elements of the periodic table, a metal

oxide of groups 13 to 16 main metal elements of the periodic table, a metal hydroxide of

above metal element, and a metal carbonate of above metal element, the inorganic

10 compound fine particles being finely dispersed in the organic polymer, and

the organic-inorganic composite material, wherein the average particle

size of the fine particles of the inorganic compound is not bigger than 1 μm and the

contents of the inorganic compound fine particles in the composite 100 wt% are within

the range of 20 to 80 wt%.

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2. An organic-inorganic composite material according to claim 1, wherein the metal

oxide of groups 3 to 12 transition metal elements of the periodic table and the metal

oxide of groups 13 to 16 main metal elements of the periodic table is aluminum,

zirconium, zinc, tin, and titanium.

3. An organic-inorganic composite material according to claim 1, wherein the inorganic compound is metal oxide.
- 5 4. An organic-inorganic composite material according to claim 1, wherein the metal oxide is aluminum oxide, zirconium oxide, zinc oxide, tin oxide, and titanium oxide.
5. An organic-inorganic composite material according to claim 1, wherein the organic-inorganic composite material have the pulp form which diameter of the pulp is
10 not more than 20 μm and the aspect ratio is not less than 10.
6. An organic-inorganic composite material according to claim 1, wherein the average particle size of the fine particles of the inorganic compound is not more than 100 nm.
- 15 7. An organic-inorganic composite material according to claim 1 additionally including silica.
8. A method for producing an organic-inorganic composite material according to claim 1 comprising;

stirring to mixing and reacting

(A) an organic solution in which at least one compound selected from the group consisting of halide dicarboxylates, dichloroformate compounds, and phosgene compounds is dissolved in an organic solvent; and

5 (B) a basic aqueous solution comprising; at least one of alkali metal elements, at least one metal compound selected from the group of a metal oxide of groups 3 to 12 transition metal elements of the periodic table, a metal oxide of groups 13 to 16 main metal elements of the periodic table, a metal hydroxide of above metal element, and a metal carbonate of above metal element, and diamine.